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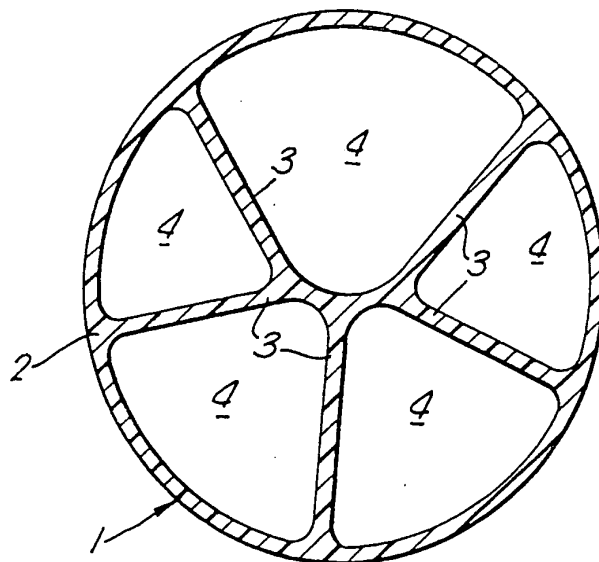
(56) Documents cited  
GB A 2132421 GB 1396935  
GB A 2130022 GB 1071694  
GB A 2091953 GB 1059855  
GB 1427586 US 4255610

(58) Field of search  
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F2P

(54) Cable ducting

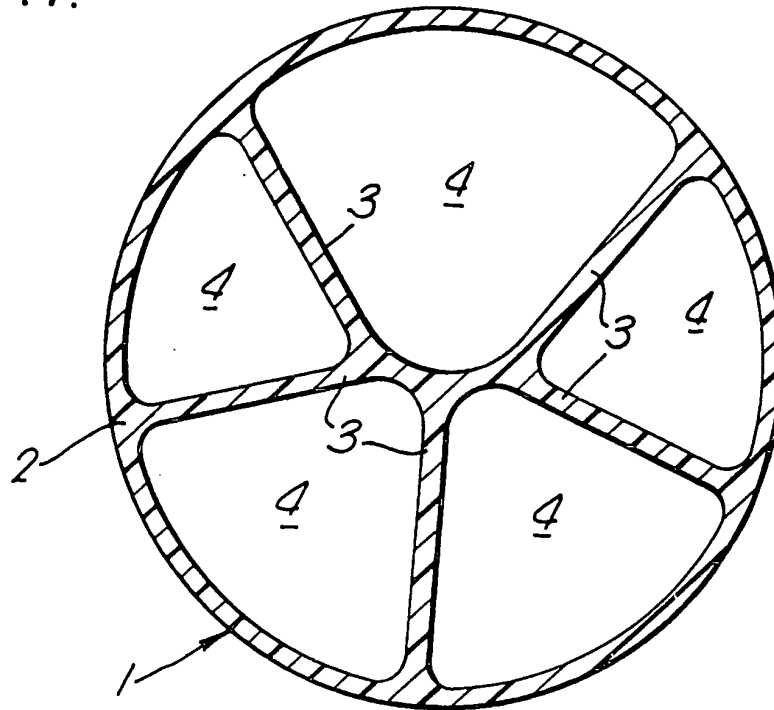
(57) A cable sub-duct comprises an integral extrudate of plastics material having at least one longitudinally-extending web 3 dividing the interior of the sub-duct into two or more channels 4. In another embodiment (Figure 2) there is access to each channel 4 by a longitudinal slit (12).

Fig. 1.



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*Fig. 1.*



*Fig. 3.*

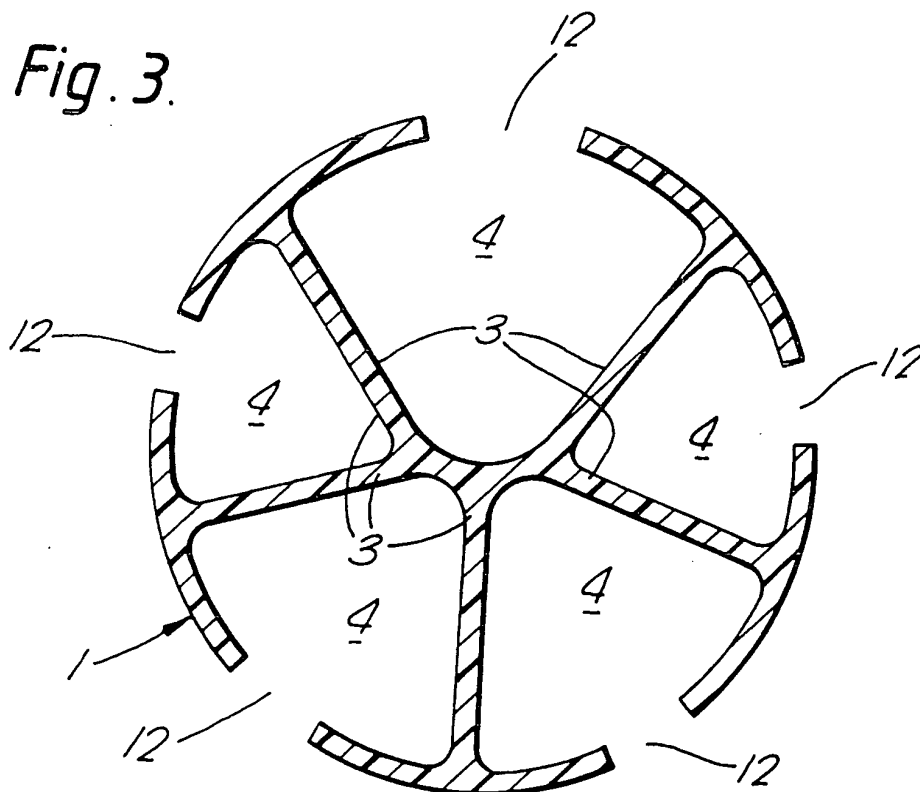
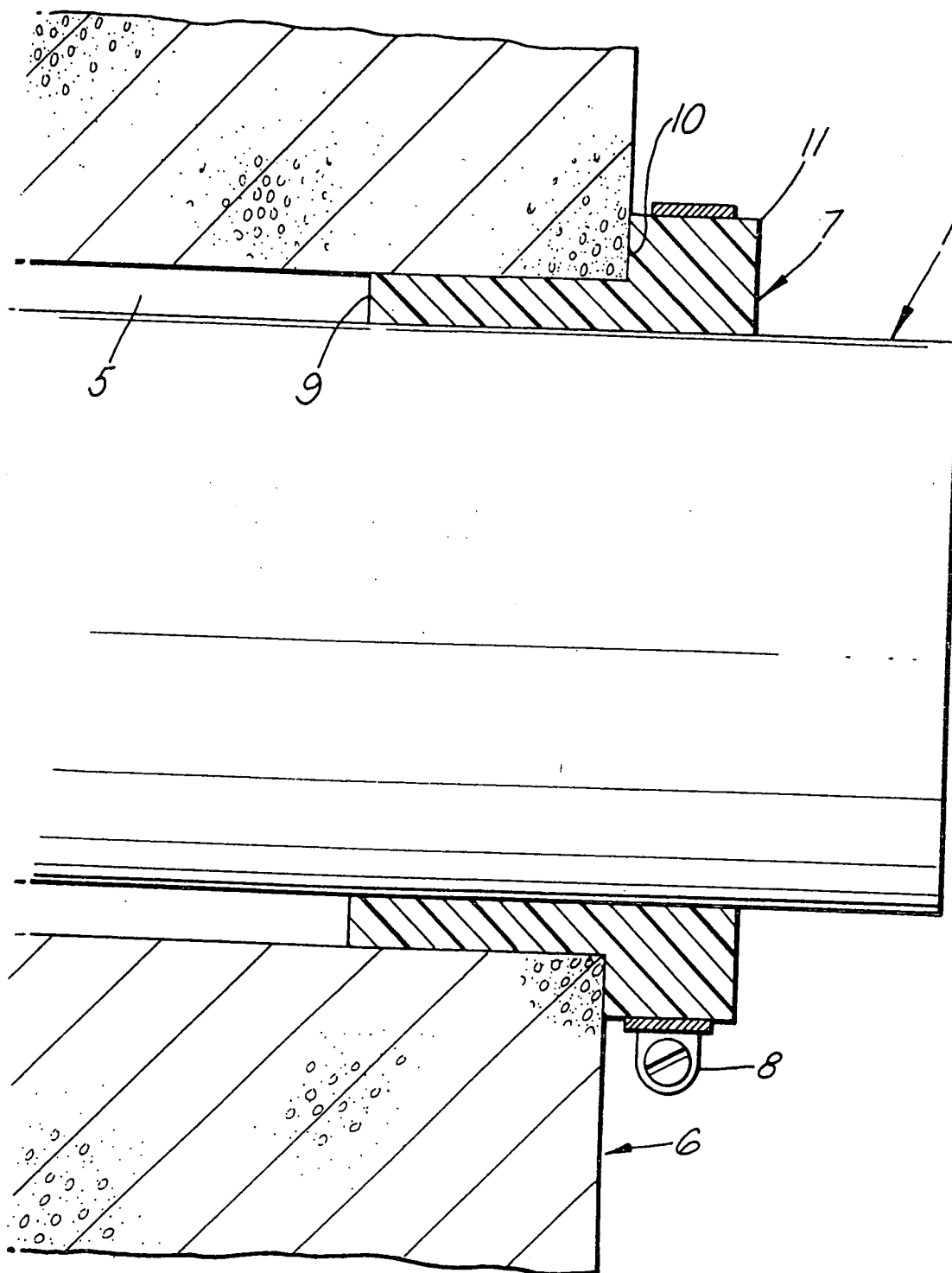


Fig. 2.



# SPECIFICATION

## Cable Ducting

This invention relates to cable sub-ducting which is arranged to extend through openings and channels, including larger ducts, for conveying cable therethrough. Such sub-ducting facilitates the passage of cable through said openings and channels by providing smooth surfaces over which the cable can ride, and by holding the cable out of contact with the sides of the opening or channel, reduces the risk of damage to the cable covering.

In accordance with the invention cable sub-ducting comprises an extrudate of plastics material having at least one longitudinally-extending web dividing the interior of the ducting into two or more channels.

Preferably the sub-ducting has a plurality of said webs joined at or near the axis of the extrudate and each extending outwards to join the outer wall, so as to provide a plurality of sector-shaped channels, which can be of any suitable number and shape depending upon requirements.

The wall and the web or webs are conveniently formed together as an integral structure during the extrusion process.

The outer wall and or one or more of the webs can be formed with one or more longitudinally-extending passageways for wires or other small diameter elements of a like nature. In some cases one or more longitudinally-extending strength members, such as wires or similar elements, may be introduced into the extrudate during the extrusion process.

The sub-ducting is preferably cylindrical in cross-section and is formed of polyethylene or other suitable thermoplastics material, and, being flexible, may be wound on cable drums for supply to customers. The outer wall of the sub-ducting may either be circumferentially continuous or be formed with one or more slots to provide a degree of resilience. Thus a slot may be formed in the part of the wall bounding each channel.

One suitable cross-section of cable sub-ducting in accordance with the invention is illustrated by way of example in Figure 1, a method of supporting the sub-ducting in use is shown in Figure 2, and a cross-section of a modified form of cable sub-ducting is illustrated in Figure 3.

Thus referring first to Figure 1 the sub-ducting 1, which is formed of pipe-grade polyethylene, is extruded with a cylindrical outer wall 2, and a plurality of webs 3 which are joined at or near the axis of the sub-ducting 1, as shown, and extend outwards to join the outer wall 2, so dividing the interior of the sub-ducting into a plurality of sector-shaped channels 4. In the example shown the sectors are not all of the same size, and any configuration and/or number of sector shapes can be devised as may be required. Conveniently the outer diameter of the sub-ducting is of the order of 85mm, and has a wall and web thickness of about 2.5mm, although sub-ducting in accordance with

the invention having a larger diameter, for example up to 155mm or even more, may find application for some purposes.

Figure 2 shows a length of sub-ducting 1 supported within a cable duct 5 of a building partly shown at 6. The sub-ducting has fitted around its end a collar 7 of injection-moulded polyethylene or other suitable flexible plastics material, clamped to the sub-ducting by a Jubilee or similar form of clamping device 8. The collar 7 has a cylindrical extension 9 of smaller external diameter which is arranged to fit within the cable duct 5 so as to secure the sub-ducting 1 against transverse movement within the duct, and the adjacent surface 10 of the larger-diameter part 11 of the collar bears against the wall around the duct aperture. The collar 7 together with a similar collar at the opposite end of the duct 5 serves to secure the sub-ducting against longitudinal movement.

Other means of supporting the sub-ducting within a cable duct may alternatively be used if desired.

The modified form of sub-ducting illustrated in Figure 1 and shown in Figure 3, is formed as an extrusion of pipe-grade polyethylene as in the case of the previous embodiment, and is constructed in a similar manner, withough in this case the part of the outer wall 2 bounding each of the sector-shaped channels 4 is formed with a longitudinally-extending slit as at 12 which provides a degree of resilience which facilitates installation.

In either of the two embodiments longitudinally-extending strength members may be embedded within the material of the extrudate, for example in the outer wall or the webs, or in a central region of the extrudate from which the webs radiate.

## CLAIMS

1. Cable sub-ducting comprising an extrudate of plastics material having at least one longitudinally-extending web dividing the interior of the ducting into two or more channels.
2. Cable sub-ducting according to Claim 1 having a plurality of said webs joined at or near the axis of the extrudate and each extending outwards to join the outer wall.
3. Cable sub-ducting according to Claim 1 or 2 wherein the outer wall and/or one or more of the webs is or are formed with one or more longitudinally-extending passageways.
4. Cable sub-ducting according to any one of Claims 1 to 3 wherein the extrudate has embedded within it one or more longitudinally-extending strength members.
5. Cable sub-ducting according to any preceding Claim which is formed of a thermoplastics material.
6. Cable sub-ducting according to any preceding Claim wherein the outer wall is circumferentially continuous.
7. Cable sub-ducting according to any one of Claims 1 to 5 wherein the outer wall is formed with at least one longitudinally-extending slot.
8. Cable sub-ducting according to Claim 7 wherein a said slot is formed in the part of the outer wall bounding each channel.

9. Cable sub-ducting according to any preceding Claim wherein the sub-ducting has an external diameter of between 85 and 155 millimetres.

10. Cable sub-ducting substantially as shown in 5 and as hereinbefore described with reference to Figure 1 or Figure 3 of the accompanying drawings.

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